9644

Diagram No. 1210

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WH-10-6-76

Office No. H-9644

LOCALITY

State Massachusetts

General Locality Buzzards Bay

Locality Clarks Point to Barneys Joy Point

19 76

CHIEF OF PARTY
CDR. J.W.Carpenter

LIBRARY & ARCHIVES

DATE August 24, 1981

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

13228
13230
13229 EE
13218
CARTOS SIGN OFF IN BACK

FORM C&GS-537 (5-66)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9644

FIELD NO. Wh 10-6-76

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State Massachusetts

General locality Buzzards Bay

Locality ~~West of New Bedford~~ CLARKS POINT TO ~~GARNEYS~~ GABNEYS JOY POINT

Scale 1:10000 Date of survey May 15 through Sept 20, 1976

Instructions dated January 16, 1976 Project No. OPR-503-Wh-76

Vessel NOAA Ship Whiting

Chief of party Cdr. J.W. Carpenter

Surveyed by J.W. Carpenter, D.Wilson, D.Yeager, J. Gofus, N.Konchuba, G. Barone
D. Goodrich, J. Rubino

Soundings taken by echo sounder, hand lead, pole (alt) Depth Recorder, Leadline, Pole, Diver

Graphic record scaled by Whiting Personnel

Graphic record checked by Whiting Personnel

Protracted by N/A Automated plot by field Hydroplot System

Soundings penciled by N/A Smoothed plot XYNETICS 1201 (AMC)

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: All times are ~~G.M.T.~~ GMT

Misc data culled from the D.R. are filed with the survey records

AWOIS and Surf MSM 10/85

STANDARDS CK'D 11-21-85
C. Loy

KWH 10/4/91

USCOMM-DC 37009-P66

A. PROJECT

This survey was conducted in accordance with Project Instructions, OPR-503-PE, WH-76, Buzzards Bay, Massachusetts, dated January 16, 1976, and supplemented changes No. 1, 2, 3, dated January 23, 1976, January 13, 1976 and April 19, 1976, respectively. Office copies of PI-OPR-503-PE,WH-76 dated Jan 13, 1976 & chges 1, 2, 3 dated Jan 22, Apr 7, Apr 15 of 1976 respectively.

B. AREA SURVEYED

The area surveyed is along a portion of the northern shore of Buzzard's Bay in the vicinity of New Bedford. Inclusive shoreline extends from Clark's Point through Clark's Cove south and west through Apponagansett Bay, Round Hill Pt., Mishaum Pt., Little River, Slocum's River to Barney's Joy Pt. The boundaries of the Sheet WH-10-6-76 are as follows:

Latitude	41°37.3' N To	41°29.1' N
Longitude	70°53.4' W To	71°00.0' W

The bottom morphology in the area covered by this survey is generally irregular with rocks and pinnacles rising near the surface in many areas. The terrain near shore is low and marshy, especially along tributaries such as Slocum's River.

Work commenced on 15 May 1976, JD 136, and was completed on 20 September 1976, JD 264.

C. SOUNDING VESSELS

The following vessels were used in this survey:

Vessel	EDP No.
WHITING Launch 1	2931
WHITING Launch 2	2932
16' Whaler	2933

Launch 1 (EDP 2931) was the primary Range-Azimuth vessel. Data was collected in DCU format and had to be reformated using RK 330.

The whaler (EDP 2933) had a DMU unit and master mounted amidship on port side. Data was hand logged and reformated.

Launch 1 worked in Clark's Cove., Apponagannsett Harbor, off of Salter's Point and Slocum River. The whaler worked where it was too shoal for Launch 2931 which included shoreline, and in Apponagansett Bay, Slocum River and Little River.

Launch 2932 worked mainly off shore from Clark's Point south to Mishaum Ledge. It also performed shoreline and surveyed Wilkes Ledge Shoal, which was inside the survey limits on a 1:20,000 sheet accomplished by the NOAA Ship PEIRCE. This area was not surveyed by the PEIRCE because depths were too shoal.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

VESSEL	ECHO SOUNDER	S/N
Launch 1	Raytheon DE-723ØD	37010
Launch 2	Raytheon DE-723 D	37018
16' Whaler	Raytheon DE-719 B	3947
	Leadline/Sounding Pole	

Velocity corrections were determined for each boat by combining an oceanographic observation (TDC Cast) with direct comparisons (bar checks) taken throughout the working area during the time period work was accomplished. The observations were combined according to the method described in the provisional Hydrographic Manual, with the following exceptions:

The TDC Cast was computed with the revised version of RK 530, velocity corrections program and a draft of 1.5 ft. was input as this was the draft of both launches.

The TDC cast was taken on Day 202 and agreed closely with results of bar check averages for each vessel, the maximum difference between the bar check curve and TDC curve was .18 ft. and was much closer at deeper depths. Bar checks were taken with each vessel and since all agreed closely, they were averaged for each sounding vessel over the period the survey was in progress. A separate correction curve was drawn for each boat. Bar checks were abstracted from the sounding volume and the abstract included in the appendix to this report, "Field Records for the Determination of Corrections to Echo Soundings."

TDC computations and the graphs from which velocity corrections were derived are also included. A graph was constructed for each vessel, showing the comparison between the TDC curve and the bar check curve. Velocity corrections were scaled from the TDC curve as per the provisional Hydro Manual at .1 ft. intervals.

Where there is significant difference (1% of the depth) between bar check curve and the TDC curve, any additional correction is applied

in the TC/TI tape as "instrument corrections." Velocity corrections for the Whaler (2933) were taken from the TDC graph as well since the draft of the transducer was generally 1 ft. and it worked in very shallow areas. For the most part 1-4 ft., and at times as deep as 15 ft.

Several comparisons with the sounding pole were taken to insure that the sounder was correctly set; these are noted on fathograms obtained with the shallow water sounder.

The TC/TI tape also reflects corrections due to settlement and squat which were determined for both launches this field season. Records are included with "Field Records for Determination of Corrections to Echo Soundings."

The value of + .15 ft. is added for all times of reduced speed and a value of + .7 ft. is applied for full speed. TRA abstract is also included in Appendix.

A-F checks, stylus arm checks (fine-arc) and initial checks were performed daily and as needed.

All records for velocity corrections are included in Appendix under "Field Records for Corrections to Echo Soundings." Also see Section D of this report.

E. HYDROGRAPHIC SHEETS

The survey is divided into two boat sheets at approximately 70°56.8' W. Apponagansett Bay is plotted on a separate overlay at 1:5,000 scale for clarity. It includes inset for "see boat sheet" work and piers and pilings. Control information and parameters are supplied in the Appendix.

The sheets were processed by WHITING survey personnel aboard the WHITING, using Houston Instruments S/N 504 Cal Comp Plotter.

Velocity, tide and horizontal control corrections are applied. See Appendix for listing.

This survey will be sent to the Atlantic Marine Center, Norfolk, Virginia, for verification and review.

F. CONTROL STATIONS

The following stations were used for electronic control:

NAME	EDP No.	GENERAL LOCATIONS
Dike, 1976	100	New Bedford, Mass.
St. James Church, 1934	102	New Bedford, Mass.
TP01, 1976	104	S. Dartmouth, Mass.
TP02, 1976	106	New Bedford, Mass.
TP03, 1976	108	S. Dartmouth, Mass.
Dart, 1976	110	S. Dartmouth, Mass.
Padanaram Church, 1844, 1934	112	S. Dartmouth, Mass.

NAME	EDP NO.	GENERAL LOCATIONS
Tater, 1976	114	Sconticut Neck, Mass.
~~Fairhaven Wtr. Tk., 1902~~	~~116~~	~~Fairhaven, Mass.~~
Padanaram ~~Brkwtr.~~ SKW light, ~~1934~~, 1976	118	S. Dartmouth, Mass (considered rebuilt between 1934 & 1976)
~~But. Flt. lh., 1902~~	~~120~~	~~New Bedford, Mass.~~
~~Blk. Rk. Beacon, 1934~~	~~122~~	~~Sconticut Neck, Mass.~~
Bareknee Bcn., 1976, 1934	124	Smith Neck, Mass.
~~Rd. Hill Lt., 1934~~	~~126~~	~~Smith Neck, Mass.~~
~~Green ECG, 1976~~	~~128~~	~~Smith Neck, Mass.~~
Fire, 1976	130	Smith Neck, Mass.
Fire Offset, 1976	131	Smith Neck, Mass.
Head, 1976	132	Mishaum Pt., Mass.
Barneys Joy Rm. 4, 1934	136	S. Dartmough, Mass.
Green, 1940	138	Smith Neck, Mass.
Green Offset, 1976	139	Smith Neck, Mass.
~~West Isl. Twr., 1943~~ (B4/1 S4/1)	~~140~~	~~West Isl., Mass.~~
Dumpling Light, 1976	142	Smith Neck, Mass (considered rebuilt between 1934 & 1976)
TP05, 1976	144	Smith Neck, Mass.
Poto, 1976	146	Slocum River, Mass.
Lloyds, 1976	148	Slocum River, Mass.
Pass, 1934	150	Slocum River, Mass.
Slocum, 1976	152	Slocum River, Mass.
Bend, 1976	154	Slocum River, Mass.
Poison, 1976	156	Slocum River, Mass.
~~Frog, 1976~~	~~158~~	~~Slocum River, Mass.~~
Man, 1976	160	Slocum River, Mass.
Blurp, 1976	162	Slocum River, Mass.
Art, 1976	194	Little River, Mass.
Eon, 1976	196	Little River, Mass.
Ball, 1976	198	Little River, Mass.
Dart, 1976	110	Apponagansett Bay, Mass
Dart Offset, 1976	134	" "

A complete list of all stations is included in the Appendix. Field work for location of these stations was accomplished by Photo Party 62, and field data will be furnished in a "Signal Report" submitted by Photo Party 62.

G. HYDROGRAPHIC POSITION CONTROL

Due to problems caused by the geography of the area, three different types of hydrographic position control were necessitated. The main scheme lines were accomplished on both the East and West sheets by Launch 2932 in Range-Range mode on base courses of 000° and 180° true. Crosslines were run on courses of 090° and 270° true. At no time were the arcs of intersection less than 30° where data is smooth plotted.

Hydrography in the vicinity of the shore and in Clark's Cove, Apponagansett Bay, the area north of a line from Dumpling Rocks to Mishaum

Pt., and the inshore area north of a line from Mishaum Pt. to Barney's Joy Pt. (including Slocum's River and Little River) was done by Launch 2931 and Skiff 2933 using Range-Azimuth methods. A shore party occupied established stations with a Del Norte Remote Transponder and a wild T-2 Theodolite. Continuous radio contact was maintained between the launch, and azimuth party. The launch was steered on Del Norte Arcs or on magnetic courses and at intervals the azimuth to the launch was taken and Del Norte range recorded to determine its position.

One problem encountered in processing this data is a peculiarity with Program 216, the Range-Azimuth Non-Real Time Plot. When the launch crossed the baseline between the occupied control station and the station used to initial on, the program refused to interpolate the positions of soundings between fix positions. This problem was solved by manually interpolating the azimuths in these cases, and assigning a dummy position number for each sounding record affected. (plotted on time & course)

In small difficult areas (no geodetic control available) of Little River and Northern Apponagansett Bay, the "see boat sheet" method of control was used. Dummy fixes using estimated positions were then computed in order to plot the positions on the automated system, and data logged with pseudo fixes using constructed Del Norte rates. No psuedo fixes were constructed for positions of soundings shown on 1:2,500 inset along piers in Apponagansett Bay. These soundings were hand plotted and G.P.S. will have to be scaled by verification; the position information was taken from TP-~~777~~ 00777 and TP-~~767~~ 00767. Distances along piers, etc., are to be found in sounding volume.

The Del Norte positioning system was calibrated during inport period by setting the system up over a measured distance and determining the difference between the true distance and Del Norte. DMU's were calibrated to zero difference. In the field, correctors to the observed reading were obtained by taking 3-point fixes and check fixes in the working area, and in instances positioning the launch on a pre-measured or computed range as circumstances permitted. The actual values of the correctors were determined abstracted and averaged over periods where values remained stable and consistent. Calibrations for the most part were taken by comparing measured against observed values of fixed aids, or calibration points, and recording results in sounding volume.

The following equipment was used:

Vessel	Master S/N		DMU S/N
2931	278		180
2932	185		172
2933	278	(JD 161-192)	181
		(JD 197-217)	180

Vessel	EDP No. of Station	Remote
2931	100	"B" 245
		"C" 218
	104	"B" 245
		"C" 218
	110	"B" 245
	130	"D" 222
	130	"C" 218
2932	104	"B" 245
	114	"D" 222
2933	100	"A" 248
	104	
	110	
	131	
	134	
	136	
	139	
	150	
	152	
	154	
	156	
	160	

H. SHORELINE See also Verification Report, section 2.b.

Shoreline on the sheets was obtained from the following manuscripts: TP-00767, TP-00778 & TP-00768. The field edit work has been done by Photo Party 62. A separate 1:2,500 scale inset for Piers & Docks is included on the 1:5,000 scale plot of the area of Apponagansett Bay.

DP's were taken on piers and pilings, buoys, navigational aids, and large boulders which may pose a hazard to navigation. DP's are listed in the position abstract and are described in the sounding volumes.

I. CROSSLINES

The number of miles of hydrography was composed of approximately 7.2% crossline. Agreement was excellent with most soundings agreeing to 1 ft. or less.

J. JUNCTIONS See Verification Report, Section 5

This Survey WH-10-6-76 (H-9644) junctions with contemporary surveys WH-10-7-76 (H-9645) on the south and PE-20-1-76 (H-9615) also on the south and was effected with a contemporary Survey PE-10-1-76 (H-9628) on the east. In both cases, junctions were generally excellent agreement with work accomplished by the PEIRCE, with differences on the order of 1 ft., except in the vicinity of Latitude 41°32.36', Longitude 70°54.00'. In this case, the bottom is very irregular and in the vicinity of a shoal in the junction area. Where soundings fall directly on soundings from the PEIRCE sheet, agreement is very good so apparent discrepancies can be attributed to irregular bottom.

H-9615 is the only junctional survey verified at this time 2/27/85 JPS

H-9645 -- 58 percent verified at AMC on July 15, 1983. No change 2/27/85

Junction was also made with the PEIRCE Sheet PE-20-1-76 (H-9615) in the vicinity of Wilkes Ledge Shoal. Agreement was also very good in this area. Differences were in the range of 1-2 feet where present and can be attributed to irregular bottoms.

In all areas junctions should become even smoother with application of smooth tides.

K. COMPARISON WITH PRIOR SURVEY

Agreement with prior Survey H-5630 (1935) is excellent with soundings usually within 1 ft. An apparent change at the mouth of Slocums River is due mentioning; this survey (WH-10-6-76) shows much exposed bottom at MLW with soundings from 0 to 1 ft. H-5630 shows soundings ranging from 1 to 2 ft. in the same area. This indicates a general shoaling trend in the area which is to be expected in a situation such as this. Smooth tides should be applied before a complete quantitative assessment can be made.

Agreement with prior Survey H-2229 (1895) is also excellent with most soundings in agreement to 1 ft.

All pre-survey review items were thoroughly developed. Diving was performed on the more significant ones to determine least depth. However, due to the extremely poor visibility 2 ft. or less, the deeper PSI were not dived on. The pre-survey review items for this survey are disposed of as follows. PSI #48 is ruins and pilings in the northwest corner of Clark's Cove, Latitude 41°36.45', Longitude 70°55.30'. These items were noted and do exist. They should be retained as charted.
Pos. # 281-282, 184, 199 Concur

PSI Items (numbered):

16 PSI #47 is a 9' depth charted at Latitude 41°34.57', Longitude 70°55.8' and was found at the charted position and confirmed by divers on JD 160. It is recommended the 9' depth be retained. Concur No bottom sample acquired fwd "rky" from H-5880 (1935)

PSI #38 is composed of the following soundings. A 6' depth charted at Latitude 41°34.12' Longitude 70°54.87' was not found. A 7' depth 68 meters northwest of the charted position was found after extensive search and was confirmed by divers with lead line on JD 160. It is recommended that the 6' depth be retained as charted. Positive proof of this feature cannot be ascertained without wire drag. No bottom sample acquired, fwd "rky" from H-5880 (1935). Two 6-foot depths from prior surveys H-5880 (1935) and H-5882 (1935) were brought forward to supplement the present survey in this area.

A 12½ depth charted at Latitude 41°33.86', Longitude 70°54.72' was ~~not~~ found. A ~~13~~' depth was found 25 meters SW of the charted position on JD 154. It is recommended the 12' depth be retained. Concur; Chart position of 12' Rk as shown on the present survey.

(NEW ROCK) An 11' depth charted at Latitude 41°33.77', Longitude 70°54.50' was not found. Two 12' depths were found, one 15 meters due east of the charted position and one 35 meters southwest of the charted position. It is recommended the 11' depth be retained. Concur An 11-foot depth from prior survey H-5882 (1935) was brought forward to supplement the present survey at this location. Retain 11 ft sdg. as charted.

PSI-38 cont.

A 5' depth charted at Middle Ledge, Latitude 41°33.43', Longitude 70°54.61' was not found. A 7' depth 40 meters north of the charted position was found and a leadline taken by divers on JD 160. It is recommended the 7' depth be charted and the 5' depth be retained as charted since visibility in the water is poor and positive proof of the 5' depth would require wire drag. A 5-foot depth from prior survey H-2229 (1895) was brought forward to supplement the present survey in this area Retain 5ft Rk as charted.

(HUSSEY RK) A 4' depth charted at Latitude 41°33.34', Longitude 70°55.42' was found. A 6½' depth was found at the charted position after extensive development on JD 154. It is recommended the 4' charted sounding be retained. Application of smooth tides could resolve this 1 ft, discrepancy. A 4-foot depth from prior survey H-2229 (1895) was brought forward to supplement the present survey. Retain 4' Rk as charted.

An 18' depth charted at Latitude 41°32.31', Longitude 70°54.38' was not found. A 21½ depth was found 80 meters SW of the charted 18' depth after extensive drift searching on JD 160. It is recommended that the 18' depth be retained in the absence of wire drag information. concur

An 18-foot depth from prior survey H-2229 (1895) was brought forward to supplement the present survey- Retain 18' sdg. as charted.

(THE SANDSPIT) A 10' depth charted at Latitude 41°31.88', Longitude 70°54.82' was not found ~~to exist 50 meters south of its charted position on JD 156~~. It is recommended the 10' be retained ~~at the new position~~. 11' L.D. acquired on present survey. Three 10-foot depths from prior survey H-5892 (1935) ~~are being~~ were brought forward to supplement the present survey. Retain 10' sdg as chtd.

A 16' depth charted at Latitude 41°31.62', Longitude 70°55.31' was not found. A 20 19' depth was found 20 meters NW of the charted depth after extensive drifting over the area on JD 160. It is recommended the 16' depth be retained. concur

A 16-foot depth from prior survey H-5892 (1935) was brought forward to supplement the present survey. Retain the 16' depth on a rock.

PSI #40 is a 16' depth charted at Latitude 41°32.89', Longitude 70°54.97'. It ~~is~~ was not found ~~100 meters SE of~~ at its charted position. It is recommended that the 16' depth be retained. Evidence suggests that the charted position is in error. There is no indication of a peak at the charted position, although this sounding originates with wire drag survey H-2968, so the sounding should be retained as charted. The 17' sdg is on a pinnacle trace & is probably a rock. Retain the 16' sdg. as charted.

A 16-foot depth from prior survey H-2968 (1908-09) WD was brought forward to supplement the present survey.

PSI #45 is a 4'½ depth charted at Latitude 41°33.31', Longitude 70°55.83' which was found and confirmed by divers using leadline on JD 160. A 4'½ depth was confirmed at the charted position. A 4½-foot depth from CL #377 of 1956 ~~was brought forward to supplement the present survey in this area~~ was confirmed by the present survey. Recommend 4½ foot depth be retained Chart 4' sdg as shown on pres. survey.

PSI #5A is composed of the following two items. A 7' depth charted at Latitude 41°30.91', Longitude 70°58.06' was confirmed by development on JD 245. A 6' depth 35 meters NE due east of the charted position was found. It is recommended the 6' depth replace the charted depth. A 2' depth charted at Latitude 41°30.89', Longitude 70°58.00' was not found after development on JD 246. Approximately 1-1/4 hours was spent searching on JD 246. The least depth found was a 6' depth mentioned above. It is recommended the 2' depth be retained, since positive disposition requires wire drag. Concur

This 2-foot depth originates with prior survey H-2321 (1897); however, this prior survey is not available to this office at this time for transfer to smooth sheet.

2Rk was brought fwd. to the present survey during O.C.I.—Retain 2pk as charted.

PSI items (unnumbered):

A 3' depth charted at Latitude 41°32.18', Longitude 70°55.70' and a 2' depth charted at Latitude 41°32.18', Longitude 70°55.67' were not found after extensive searching. These charted depths are very close to a foul area around Round Hill Pt., and it is suggested that they lie within it. A 3-foot and a 2-foot depths from prior survey ~~H-5630 (1934)~~ H-5882 (1935) were brought forward to supplement the present survey. These are depths on rocks and should be charted as shown on the pres. survey.

A 16' depth charted at Latitude 41°30.09', Longitude 70°58.67' was not confirmed by development on JD 245. A ~~15~~ 17' depth 30 meters NE of the charted position was found. It is recommended the ~~15' depth replace~~ the 16' depth be retained. A 16-foot depth from prior survey H-5630 (1934) was brought forward to supplement the present survey Retain the chtd 16' sdg.

An 18' depth charted at Latitude 41°30.47', Longitude 70°58.31' was confirmed by development on JD 245. An ~~16~~ 18' depth found 40 meters SE of the charted depth. It is recommended ~~the 16' depth replace the 18' depth~~. concur That least depths (18-ft) from the present survey in this area be charted.

A 14' depth charted at Latitude 41°30.63', Longitude 70°58.28' was confirmed by development on JD 245. A ~~12~~ 13' depth was found 20 meters SW of the charted depth. It is recommended the ~~12~~ 13' depth replace the charted depth. Concur pt

A 12' depth charted at Latitude 41°~~70.56~~ 30.64', Longitude 70°58.43' was confirmed by development on JD 245. A 10' depth 12 meters east of the charted depth was found. It is recommended the 10' depth replace the charted depth. Chart depths as shown on the present survey. Concur

A 1' depth and a 6' depth charted at Latitude 41°35.5', Longitude 70°54.52' and Latitude 41°35.4', Longitude 70°54.45' respectively were not specifically developed. It is recommended they be retained as charted. A 1-foot depth and a 6-foot depth from prior survey H-2230 (1895) were brought forward to supplement the present survey. Retain 1' & 6' sdgs as charted.

A 5' depth charted at Latitude 41°33.95', Longitude 70°56.18' was not found. It is recommended that it be retained as charted in the absence of wire drag information. A 5-foot depth from prior survey H-5882 (1935) (5 Rk) was brought forward to supplement the present survey

(dashed circle item) A 6' depth charted at Latitude 41°35.05', Longitude 70°56.8~~3~~4' was confirmed. A 5' depth was found at the same position. It is recommended the 5' depth replace the 6' depth. Do not concur See Verifier's Report The 6ft sdg is charted from a misc. source, was not investigated nor confirmed on the pres. survey and should be retained as charted.

L. COMPARISON WITH CHART (formerly chart 249)

WH-10-6-76 is in excellent agreement with the latest chart of the area, Chart 13230, October 1975, 27th ed., 1:40,000 scale. No new significant hazards to navigation were found. Those already on the chart and marked by buoys should be retained. As already mentioned (Section K.), divers verified these where possible. It should be noted that no evidence of the reported obstruction near N "6" Bent's Ledge was found. Although a least depth of ~~6~~ 7 feet was found, ~~as charted~~. (6 ft depth brought fwd) Agreement with the chart was within 1 ft, except for pre-survey review items previously noted.

Retain obstruction rep chtd from a misc. source See Verifier's Report in lat. 41°34.09'N, long. 70°54.90'W - "obstr rep" was not disproved.

M. ADEQUACY OF SURVEY

See Verifiers Report section 6

This survey is complete and adequate to supercede all prior surveys. Apponagansett Bay and Slocums River have been done most extensively. All shoals have been investigated and no new dangers to navigation or new shoals have been found. Do not concur. With the addition of numerous items brought fwd to the pres. survey during verification of Q.C.I., the survey is adequate to supersede prior N.O.S. surveys within the common area.

N. AIDS TO NAVIGATION

The following aids to navigation were located within the limits of this survey. The positions of floating aids were compared as below.

Description	Charted Position		Position found by WHITING Launches		1976 Light List #
C"1" ✓	41/30/33	70/54/26	41°30'34"	70°54'22"	693 Wilkes Ledge
	geographic name suggested - Salters Pt. Rock 2				
1 C"3" ✓	41/31/29	70/56/11	41/31/31	70/56/11	693 SALTERS PT. LEDGE
C"3" ✓	41/32/25	70/55/45	41/33/24	70/55/45 (Buoy is S.E. of keel Rk)	696 KEEL ROCK
C"5" ✓	41/32/04	70/55/15	41/32/05	70/55/12	694 Dumpling Rock
C"1" ✓	41/33/22	70/55/20	41/33/21	70/55/20	696 Hussey Rock
C"9" Gong "9" ✓	41/33/05	70/54/34	41/33/05	70/54/32	696 West Passage
C"11" ✓	41/33/47	70/54/28	41/33/43	70/~~56~~54/26	696 Inez Rock
2 RB ✓	41/31/35 ((cht'd sdg. 16, should be 16Rk, from H-5882)	70/55/18	41/31/36	70/55/18	693 THE SANDSPIT SOUTHWEST SHOAL
RB Can ✓	41/32/44	70/55/34	41/32/44	70/55/34	696 FATAL ROCK
Gong 7DR ✓	41/32/18	70/55/03	41/32/18	70/5~~4~~5/01~~59~~	632 Dumpling Rks
N"2" ✓	41/33/21	70/54/37	41/33/21	70/54/36	696 Middle Ledge
N"6" ✓	41/34/04	70/54/54	41/34/04	70/54/54	696 Bents Ledge
N"6" ✓	41/34/41	70/56/36	41/34/40	70/56/35	696 Dartmouth Rock
N"4" Lighted Bell Buoy	41/31/53	70/55/01	41/31/53	70/5~~4~~5'01"/~~58~~	694 THE SANDSPIT
N"2" ✓	41/3~~1~~0/54	70/58/08	41/~~31~~30/54	70/58/04	678 SLOCUMS LEDGE

1 The staff geographer approved a new geographic name, Salters Point Ledge, for the ledge located in the area of lat 41°37.5N, long. 70°56.8'W - informed Q.C. that USCG will be notified to change Lt. List name of the feature, marked by can buoy #3 from Salters Point Ledge to Salters Point Rock, when approval is acquired.

2 Approved geographic name, "The Sandspit Southwest Shoal" is pending. 8/27/85

Positions 2931	. . . . .	1421 N.M.
2932	. . . . .	2178 N.M.
2933	. . . . .	1268 N.M.
Total Positions	. . . . .	4867
Bottom Samples	. . . . .	21

P. MISCELLANEOUS

The initial on the 719-B fathometer used in the 16' whaler (2933) was set on the transducer draft for each day except Days 197 and 201. The reason for this was to keep the calibration trace on zero, since the initial covers the calibration when set on zero. A value of "0" is put on the corrector tape in the TRA for days where the draft is set on the Fathometer. On days 197 and 201, the soundings shown by the graphic record were multiplied by a factor of 50/47 due to an error in setting the calibration mark at 3 ft. instead of zero. The difference between calibration marks should be 50 ft.; in this case it was 47 ft., therefore, erroneous depths would be shown. Hence the application of the correction factor. Correction factor is included in depths logged on tape.
Ref: "Instruction Manual for Raytheon 719-B; Shoal Water Recorder."

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

Rk 111	Range-Range Real Time Plot	1/15/76
Rk 201	Grid and H/R Lattice Plot	2/19/75
Rk 211	Range-Range Offline Plot	1/15/76
Rk 212	Visual Station Table Load & Plot	7/1/74
Rk 216	Range-Azimuth Plot	2/5/76
Rk 330	Data Reformated Check	3/12/76
Rk 300	Utility Computations	2/5/76
Am 500	Predicted Tide Generator	11/10/72
Rk 530	Layer Corrections for Velocity	5/10/76
RK 561	Hyperbolic and Range-Range Geodetic Calibration	7/1/74
Am 602	Extended Line Oriented Editor	5/21/75

S. REFERENCES TO REPORT

None

The positions of three non-floating aids were determined to be different from published positions. These are as follows:

Description	Published Location	Position Located During this Survey
Dumpling Rocks Light	41/32/18 70/55/18	41/32/16.7 70/55/19.2
Barekneed Rock Daybeacon	41/33/20 70/55/56	41/33/19.3 70/55/56.7
Padanaram ~~Brkwtr~~. Brkw. Light	41/34/24 70/56/24	41/34/26.4 70/56/23.3

These aids were located by Photo Party #62. Third order methods were used. NOAA Form 76-40, "Non Floating Aids or Landmarks for Charts", is included in Appendix to this report. It appears that all three aids have been rebuilt in their present location. ✓

O. STATISTICS

Miles of Hydro 2931 61

Miles of Hydro 2932 228

Miles of Hydro 2933 56

Total Miles of Hydro 345

Square Miles of Hydro. . . 2931 2

2932 9

2933 . . . . . 1.5

Total Square Miles of Hydro 12.5

OPR 503

S-uat and Settlement Data

WH 2931 1976

TIME	RPM	Rod
1110	0	10.5
1111	500	10.7
1112	500	10.7
1112	0	10.6
1056	0	10.45
1057	1000	10.60
1058	1000	10.60
1059	0	10.50
1100	0	10.60
1101	1500	11.10
1102	1500	11.70
1103	0	10.80
1107	0	10.6
1108	1700	11.2
1109	1700	11.2
1110	0	10.5

Differences in s-uat and settlement were determined by comoaring readings on a Philadelonia rod observed through a CS 90 Leveling insrument set upon Ricketson's Pt. jetty. REadings were made while the launch was dead in the water and at various soeeds. A check for tides was made by making a second reading while the launch was dead in the water after every run. The following are the results ot the change in transducer deoth at various soeeds.

RPMs	0	500	1000	1500	1700 (Full)
	0	+.15	+.15	+.70	+.78

H3644 - Settlement and Squat Correctors

Launch 1002

rpm	corrector
600	+0.0
700	+0.0
800	+0.1
900	+0.1
1000	+0.1
1100	+0.2
1200	+0.2
1300	+0.2
1400	+0.2
1500	+0.2
1600	+0.2
1700	+0.2
1800	+0.2
1900	+0.2
2000	+0.1
2100	+0.0
2200	+0.0
2300	-0.1
2400	-0.2
2500	-0.2

Launch 1004

rpm	corrector
600	+0.0
700	+0.1
800	+0.1
900	+0.1
1000	+0.2
1100	+0.2
1200	+0.3
1300	+0.3
1400	+0.4
1500	+0.4
1600	+0.4
1700	+0.4
1800	+0.4
1900	+0.4
2000	+0.3
2100	+0.3
2200	+0.2
2300	+0.1
2400	+0.0
2500	+0.0

Launch 1207 or 2932

rpm	corrector
400	+0.0
500	+0.1
600	+0.1
700	+0.1
800	+0.2
900	+0.3
1000	+0.3
1100	+0.4
1200	+0.5
1300	+0.6
1400	+0.7
1500	+0.7

VELOCITY TAPE LISTING

WHITING LAUNCH 2931

000050 0 0001 0001 000 293100 009644

000079 0 0002

000106 0 0003

000133 0 0004

000160 0 0005

000188 0 0006

000214 0 0007

000240 0 0008

000270 0 0009

000294 0 0010

000320 0 0011

000350 0 0012

000378 0 0013

000404 0 0014

000431 0 0015

000459 0 0016

000486 0 0017

000515 0 0018

000540 0 0019

000573 0 0020

000604 0 0021

000635 0 0022

999999 0 0022

VELOCITY TAPE LISTING

WHITING LAUNCH 2932

000050 0 0001 0003 000 293200 009644

000079 0 0002

000106 0 0003

000133 0 0004

000160 0 0005

000188 0 0006

000214 0 0007

000240 0 0008

000270 0 0009

000294 0 0010

000320 0 0011

000350 0 0012

000378 0 0013

000404 0 0014

000431 0 0015

000459 0 0016

000486 0 0017

000515 0 0018

000540 0 0019

000573 0 0020

000604 0 0021

000635 0 0022

999999 0 0022

VELOCITY TAPE LISTING

WHITING LAUNCH 2933

000050 0 0001 0002 000 293300 009644

000079 0 0002

000106 0 0003

000133 0 0004

000160 0 0005

000183 0 0006

000214 0 0007

000240 0 0008

000270 0 0009

000294 0 0010

000320 0 0011

000350 0 0012

000378 0 0013

000404 0 0014

000431 0 0015

000459 0 0016

000486 0 0017

000515 0 0018

000540 0 0019

000573 0 0020

000604 0 0021

000635 0 0022

999999 0 0022

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

NOAA FORM 75-21 (10-72) — U.S. DEPARTMENT OF COMMERCE — NOAA — NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship WHITING LAUNCH 2932

CDR. J. W. CARPENTER Comdg.

These corrections are to be used

between 27 MAY 1976 and 1 SEPT 1976

in the locality

BUZZARDS BAY - MASS.

for hydrographic survey/s Nos. WH-10-6-76

TDC CAST 202 DAY
BARCHECK AVERAGES,
DAYS 149, 155, 159, 160
165, 166, 168, 169, 170

DEPTHS IN FATHOMS AND FEET

(For deep water add 0 to these figures)

Corr'n	To depth
0.0	2.5
0.1	5.0
0.2	7.9
0.3	10.6
0.4	13.3
0.5	16.0
0.6	18.8
0.7	21.4
0.8	24.0
0.9	27.0
1.0	29.4
1.1	32.0
1.2	35.0
1.3	37.8
1.4	40.4
1.5	43.1
1.6	45.9
1.7	48.6
1.8	51.6
1.9	54.0
2.0	57.3
2.1	60.4
2.2	63.5
2.3	67.0
2.4	70.0

VELOCITY CORRECTION TABLE REFLECTS VALUES FROM TDC CURVE AS PRESCRIBED IN PROVISIONAL HYDROGRAPHIC MANUAL.

NOTE: THE TDC CURVE DIFFERS FROM BARCHECK CURVE BY AN AVERAGE OF .20 FT., THIS IS PROBABLY ATTRIBUTED TO AN ERROR IN ASSUMED DRAFT. IT IS CONSIDERED NEGLIGIBLE, BUT FOR PURPOSES OF COMPLETENESS, A VALUE of -.2 FT. IS PLACED IN THE TRA ABSTRACT AND REFLECTED ON THE TC/TI TAPE.

0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.5 2.0 2.2 2.4

4.0 9.3 14.7 20.0 25.3 30.6 36.2 41.6 47.3 52.8 58.4 63.9

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

NOAA FORM 76-21 (10-72) — U.S. DEPARTMENT OF COMMERCE — NOAA — NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship WHITING-LAUNCH 2931 & 2933

CDR. J.W. CARPENTER Comdg.

These corrections are to be used

between 15 MAY 1976 and 11 SEPT. 1976

in the locality

BUZZARDS BAY, MASS.

for hydrographic surveys Nos. WH-10-6-76

DEPTHS IN FATHOMS FEET

(For deep water add a 0 to these figures)

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

0 10 20 30 40 50 60 70 80

0.00 .02 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2

CORRECTIONS IN FEET

CORR'N	TO DEPTH	
0.0	2.5	4.0
0.1	5.0	9.3
0.2	7.9	14.7
0.3	10.6	20.0
0.4	13.3	25.3
0.5	16.0	30.6
0.6	18.8	36.2
0.7	21.9	41.6
0.8	24.0	47.3
0.9	27.0	52.8
1.0	29.4	58.4
1.1	32.0	63.9
1.2	35.0	
1.3	37.8	
1.4	40.4	
1.5	43.1	
1.6	45.9	
1.7	48.6	
1.8	51.5	62.8
1.9	54.0	
2.0	57.3	68.4
2.1	60.1	
2.2	68.5	63.8

TDC CAST 202 DAY

⊙ BARCHECK AVERAGES DAYS 138, 141, 145, 195

VELOCITY CORRECTION TABLE REFLECTS VALUES FROM THE TDC CURVE AS PRESCRIBED IN THE PROVISIONAL HYDROGRAPHIC MANUAL.

NOTE: THE TDC CURVE DIFFERS FROM BARCHECK CURVE BY AN AVERAGE OF -.09 FT., THIS IS PROBABLY ATTRIBUTED TO AN ERROR IN ASSUMED DRAFT. IT IS CONSIDERED NEGLIGIBLE, BUT FOR PURPOSES OF COMPLETENESS, A VALUE OF -.1 FT IS PLACED IN THE TRA ABSTRACT AND REFLECTED ON THE TC/T1 TAPE.

4 X 240

20 X 20 TO THE INCH • 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

4.0 9.3 14.7 20.9 25.3 30.6 36.2 41.6 47.3 52.8 58.4 63.9

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

NOAA FORM 75-21 (10-72) — U.S. DEPARTMENT OF COMMERCE — NOAA — NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship WHITING LAUNCH 2932

CDR. J. W. CARPENTER Comdg

These corrections are to be used between 27 MAY 19 76 and 1 SEPT 19 76

in the locality BUZZARDS BAY, MASS.

for hydrographic surveys Nos. WH-10-6-76

DEPTHS IN FATHOMS FEET

(For deep water add a 0 to these figures)

Corr'N	to depth
0.0	2.5
0.1	5.0
0.2	7.9
0.3	10.6
0.4	13.3
0.5	16.0
0.6	18.8
0.7	21.4
0.8	24.0
0.9	27.0
1.0	29.4
1.1	32.0
1.2	35.0
1.3	37.8
1.4	40.4
1.5	43.1
1.6	45.9
1.7	48.6
1.8	51.6
1.9	54.0
2.0	57.3
2.1	60.4
2.2	63.5

TDC CAST 202 DAY
BARCHECK AVERAGES,
DAYS 149, 155, 158, 160
165, 166, 168, 169, 170

VELOCITY CORRECTION TABLE REFLECTS VALUES FROM TDC CURVE AS PRESCRIBED IN PROVISIONAL HYDROGRAPHIC MANUAL.

NOTE: THE TDC CURVE DIFFERS FROM BARCHECK CURVE BY AN AVERAGE OF .20 FT., THIS IS PROBABLY ATTRIBUTED TO AN ERROR IN ASSUMED DRAFT. IT IS CONSIDERED NEGLIGIBLE, BUT FOR PURPOSES OF COMPLETENESS, A VALUE of -.2FT IS PLACED IN THE TRA ABSTRACT AND REFLECTED ON THE TC/TI TAPE.

0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2

SIGNAL TAPE LISTING

WK 10-9-76

100	6	41	36	50518	070	55	37827	254	0008	000000	DIKE,1976
102	6	41	37	22463	070	55	32369	254	0000	000000	ST JAMES CH
104	6	41	35	34214	070	55	47590	254	0000	000000	TP01
106	6	41	36	00017	070	54	49218	254	0000	000000	TP02
~~108~~	~~6~~	~~41~~	~~35~~	~~34348~~	~~070~~	~~55~~	~~41335~~	~~254~~	~~0000~~	~~000000~~	~~TP03~~
110	6	41	35	08952	070	56	51936	254	0000	000000	DART,1976
112	6	41	35	19590	070	56	29226	254	0000	000000	PADANARAM CH
114	6	41	34	59490	070	51	22422	254	0000	000000	TATER,1976
~~116~~	~~6~~	~~41~~	~~38~~	~~30252~~	~~070~~	~~53~~	~~12367~~	~~139~~	~~0000~~	~~000000~~	~~F.HAVEN WTR TR~~
118	6	41	34	26398	070	56	23229	139	0000	000000	PAD BKWTR LT (1976)
~~120~~	~~6~~	~~41~~	~~36~~	~~13285~~	~~070~~	~~53~~	~~42007~~	~~139~~	~~0000~~	~~000000~~	~~BUT FLT LH~~
~~122~~	~~6~~	~~41~~	~~34~~	~~48951~~	~~070~~	~~51~~	~~46667~~	~~139~~	~~0000~~	~~000000~~	~~BLK RK BCN~~
124	6	41	33	19287	070	55	56695	139	0000	000000	BAREKNEE
~~126~~	~~6~~	~~41~~	~~32~~	~~24834~~	~~070~~	~~55~~	~~59761~~	~~139~~	~~0000~~	~~000000~~	~~ROUND HILL LT~~ (RADOME)
~~128~~	~~6~~	~~41~~	~~32~~	~~24248~~	~~070~~	~~55~~	~~59472~~	~~254~~	~~0015~~	~~000000~~	~~GREEN ECC~~
130	6	41	31	47229	070	56	**56005**	254	0003	000000	FIRE 1976
131	6	41	31	46619	070	56	**55949**	252	0003	000000	FIRE OFFSET
132	6	41	30	52195	070	57	**15188**	254	0006	000000	HEAD,1976
134	6	41	35	05500	070	57	22760	254	0000	000000	DART OFFSET
136	6	41	30	43663	070	59	07018	254	0010	000000	BARNEYS JOY RM 4
138	6	41	32	24003	070	55	50503	254	0015	000000	GREEN 1940
139	6	41	32	23871	070	55	50825	252	0015	000000	GREEN OFFSET, 1976
140	6	41	35	00950	070	49	27429	254	0014	000000	WEST IS. TOWER

142 S 41 32 16723 070 55 19151 254 0000 000000 DUMPLING LT

144 S 41 33 23229 070 56 08290 254 0000 000000 TP-05

146 S 41 31 49835 070 58 23299 254 0000 000000 POTO,1976

148 S 41 31 42737 070 58 42843 254 0000 000000 LLOYDS, 1976

150 S 41 31 52567 070 58 53344 139 0000 000000 PASS,1936

152 S 41 32 37921 070 59 09181 254 0000 000000 SLOCUM,1976

154 S 41 32 44013 070 59 38559 254 0000 000000 BEND,1976

156 S 41 32 48907 071 00 03495 254 0000 000000 POISON,1976

~~158 S 41 33 31106 071 00 09009 254 0000 000000 FROG ,1976~~

160 S 41 33 31107 071 00 09156 254 0000 000000 MAN,1976

162 S 41 34 05243 071 00 20124 254 0000 000000 BLURP,1976

~~164 S 41 27 03516 070 55 25254 139 0014 000000 PENIKESE 1948~~

~~166 S 41 24 50573 070 56 54720 139 0000 000000 GOSNOLD MON~~

~~168 S 41 26 01443 070 54 09921 254 0006 000000 NOX~~

~~170 S 41 25 37442 070 55 17052 254 0000 000000 SAN~~

~~172 S 41 25 13628 070 56 03609 139 0000 000000 CUTTYHUNK USE~~

~~174 S 41 23 47128 071 00 02492 139 0000 000000 BUZZARDS BAY TWR~~

~~176 S 41 24 51800 070 57 20342 139 0000 000000 CUTTYHUNK LT~~

~~178 S 41 25 29933 070 55 02803 254 0000 000000 CUTTY HBR N JETTY L~~

~~180 S 41 25 38347 070 54 17725 254 0000 000000 PIG,1976~~

~~182 S 41 25 21795 070 54 41474 254 0000 000000 DUN,1976~~

~~184 S 41 25 53458 070 55 41790 254 0003 000000 HUN,1976~~

~~186 S 41 20 54002 070 50 07727 139 0000 000000 GAY HEAD LT HSE~~

~~188 S 41 25 47391 070 54 14595 254 0000 000000 RUB,1976~~

~~190 S 41 25 29213 070 54 23443 254 0000 000000 ANT,1976~~

~~192 S 41 25 15569 070 56 01014 254 0000 000000 CUTTYHUNK WTR TWR~~

194 S 41 32 07622 070 58 09728 254 0000 000000 ART,1976

196 6 41 32 20414 070 58 13719 254 0000 000000 EON,1976

193 6 41 32 37649 070 58 31934 254 0000 000000 BALL,1978

~~200 6 41 32 25269 070 58 05123 254 0000 000000 FEZ,1976~~

~~202 6 41 32 07433 070 58 29634 254 0000 000000 BIZZ,1976~~

~~204 6 41 26 57274 070 58 04579 139 0000 000000 PASQUE, 1944~~

~~206 6 41 26 56504 070 58 30016 254 0000 000000 FUSS,1976~~

~~208 6 41 26 15130 070 58 46732 139 0000 000000 NECK,1943~~

~~210 6 41 25 38798 070 55 38549 139 0000 000000 PON,1976~~

~~212 6 41 25 35580 070 55 54321 139 0000 000000 ROD,1976~~

NOAA FORM 76-40
(2-71)
PRESCRIBED BY
PHOTOGRAMMETRY INSTRUCTION NO. 64.

U.S. DEPARTMENT OF COMMERCE—NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] FIELD INSPECTION
- [X] FIELD EDIT
- [ ] COMPILATION
- [ ] FINAL REVIEW
- [ ] QUALITY CONTROL AND REVIEW

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE DELETED

ORIGINATING LOCATION: Buzzards Bay, Massachusetts

DATE:

The following objects have (have not) been inspected from seaward to determine their value as landmarks:

JOB NUMBER: PH-

STATE:

SURVEY NUMBER: T - TP- 00771

DATUM: NA 1927

POSITION

CHARTING NAME	DESCRIPTION	LATITUDE ° ′	LATITUDE ″ D.M.METERS	LONGITUDE ° ′	LONGITUDE ″ D.P.METERS	METHOD AND DATE OF LOCATION (See instructions on reverse of this form) FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
Dumpling Rocks	Light (L.L.#632) Fl G 6 sec. 52Ft. 8M 1976	41 32	16.7 515.21	70 55	19.2 445.09	F2,3a 1976		Photo Party 62, 1976	13230
Barekneed Rocks	Daybeacon(L.L.#~~686~~) Blk. Sq. Barekneed Rocks Beacon 1976	41 33	19.3 447.30	70 55	56.7 1749.25	"		"	"
Padanaram Breakwater	Light (L.L.#~~697~~) 1976 Fl R 4sec. 25Ft. (note: orange triangle day signal)	41 34	26.4 611.69	70 56	23.3 718.83	"		"	"

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	TITLE
1. Objects inspected from seaward		☐ FIELD INSPECTOR ☐ FIELD EDITOR
2. Positions determined and/or verified		FIELD INSPECTOR
		FIELD EDITOR
		COMPILER
3. Forms originated by Quality Control and Review Group and final review activities		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR 'METHOD AND DATE OF LOCATION' SECTION

NOTE: 'Photogrammetric Positions' are dependent entirely, or in part, upon control established by photogrammetric methods.
'Field Positions' are determined by field observations based entirely upon ground control.

COLUMN TITLE

TYPE OF ENTRIES

COMPILATION

Applicable to office identified and located objects only. Enter the number and date of the photograph used to identify the object.

FIELD INSPECTION AND FIELD EDIT

1. New Position Determined–Enter the applicable data by symbols as indicated below:

F – Field	P – Photogrammetric	EXAMPLES:
1. Triangulation	1. Field identified	
2. Traverse	2. Theodolite	F. 3.c
3. Intersection	3. Planetable	
4. Resection	4. Sextant	P.2
a. Theodolite		
b. Planetable		
c. Sextant		

Immediately beneath the data described above, enter the following:

a. For 'Field Positions' enter the date of location.

b. For 'Photogrammetric Positions' enter the date of field work; and, if a photograph was used in locating the object or the object was identified on a photograph, enter the number of the photograph used.

2. Triangulation Station Recovered – Enter 'Triang. Rec. mo/day/yr.'

3. Position Verified – Enter 'Verif. mo/day/yr.'

NOAA FORM 76-40 (2-71)

* U.S. GOVERNMENT PRINTING OFFICE: 1971-769374/445 REG.#6

Approval Sheet

Submitted by :

Nicholas L. Konchuba

Ens., NOAA

Supervision of field and office work on this hydrographic survey was continuous on a day to day basis to ensure completeness of the survey and that all work was done in accordance with the instructions.

Approved/Forwarded

For John W. Carpenter

Cdr., NOAA

Commanding Officer, NOAA Ship Whiting

Field Tide Note

Predicted tides were applied to this survey. Tides were based on reference station at Newport R.I. and corrected using the following ratios and time correctors for zone 1, preliminary zoning, furnished by Oceanography Division, Rockville Maryland.

	Ratio		Times	
Zone	H.W.	L.W.	H.W.	L.W.
1	1.06	1.06	0min.	+4min.

In support of OPR-503 the following tide gages and staffs were installed and maintained during operations on this sheet.

Name	Latitude	Longitude
Clarks Point	41/36 N.	70/54 W.
Round Hill	41/32 N.	70/56 W.
South Dartmouth	41/35 N.	70/57 W.
Apponganset	41/36 N.	70/57 W.
Slocum's River	41/32 N.	70/59 W.
Little River	41/32 N.	70/58 W.
Little River Staff	41/32 N.	70/58 W.
Mishaum Point	41/31 N.	70/57 W.

Marigrams and leveling records have been forwarded to Oceanographic Division C331. Smooth tides and zoning have been requested from Rockville to be sent to processing division, Atlantic Marine Center for application to smooth sheets.

6/13/77

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Round Hill Point
Clark's Point
Little River
Slocums River

Period: May 15-September 20, 1976

HYDROGRAPHIC SHEET: H-9644

OPR: 503

Locality: Buzzards Bay, Mass.

Plane of reference (mean ~~lower~~ low water): 1.85 ft.-Round Hill Point
2.29 ft.-Clark's Point
2.6 ft.-Little River
2.0 ft.-Slocums River

Height of Mean High Water above Plane of Reference is

Zone 1 - 3.0 ft.; Zones 2 and 3 - 3.4 ft; Zone 4 - 3.6 ft.

Remarks: Recommended zoning:

(1) In Little River zone direct on Little River.
(2) In Slocums River zone direct on Slocums River.
(3) South of 41°32.5' zone direct on Round Hill Point.
(4) North of 41°32.5' zone direct on Clarks Point.

Don Spillman
Chief, Tides Branch

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SURVEY NUMBER

H-9644

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
Cow Yard (Loozle) ✓										1
Apponagansett Bay ✓	x									2
Barekneed Rks ✓✓	x									3
Barneys Joy Pt. ✓	x									4
Bayview ✓	x									5
Bents Ledge ✓	x									6
Buzzards Bay ✓	x									7
Clarks Cove ✓	x									8
Clarks Pt. ✓	x									9
Dartmouth Rk ✓	x									10
Deepwater Pt. ✓	x									11
Dumpling Rks ✓	x									12
Fatal Rk ✓	x									13
Giles Creek ✓	x									14
Great Neck ✓	x									15
Hussey Rk ✓	x									16
Inez Rk ✓	x									17
Keel Rk ✓	x									18
Lazy Rk ✓	x									19
Little Island ✓	x									20
Little River ✓	x									21
Lone Rk ✓	x									22
Middle Ledge ✓	x									23
Mishaum Pt. ✓	x									24
Moshers Pt. ✓	x									25

Cow Yard (locals)

suggested geo. name
add. "Salters Pt. Rock"
The sandspit southwest shoal"

land

NOAA FORM 76-155 (11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SURVEY NUMBER

H-9644

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D. FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H	U.S. LIGHT LIST K	
Nonquitt ✓	x									1
Pawn Rk ✓	x									2
Pelegs Island ✓	x									3
~~Potomska~~ New Bedford ✓ Shore Acres ✓ (locale)	x									4
Ragged Rks ✓	x									5
Ricketsons Pt. ✓	x									6
Round Hill Pt. ✓	x									7
Salters Pt. ✓ Salters Point Rock ✓	x	— requested for approval 8-15-83								8
Slocums Neck ✓	x									9
Slocums River ✓	x									10
Smith Neck ✓	x									11
South Dartmouth ✓	x									12
The Sandspit ✓ The Sandspit Southwest Shoal	x ✓	— requested for approval 8-15-83								13
White Rk ✓	x									14
Wilkes Ledge ✓	x									15
Slocums Ledge ✓										16
Mishaum Ledge ✓										17
Potomska Point ✓										18
Hunts Rock Breakwater ✓ (topo feature)		✓								19
Padanaram Breakwater ✓					Approved:					20
Apponagansett ✓										21
~~Salters Point Ledge~~ ✓ (new name)					Charles E. Harrington					22
Cedar Island ✓					Chief Geographer - N/CG2x5					23
Great Ledge ✓					9	MAY	1983			24
Round Hill ✓										25

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9644

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	5
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS/ARC, EXCESS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						1-misc.
CAHIERS						
VOLUMES	11					
BOXES			2-Smooth			

T-SHEET PRINTS (List) TP-00767, TP-00768, and TP-00771

SPECIAL REPORTS (List) NONE

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			4867
POSITIONS CHECKED		650	
POSITIONS REVISED		20	
SOUNDINGS REVISED		150	
SOUNDINGS ERRONEOUSLY SPACED		30	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	6		
VERIFICATION OF CONTROL		24	
VERIFICATION OF POSITIONS		150	
VERIFICATION OF SOUNDINGS	24	250	
COMPILATION OF SMOOTH SHEET		225	
APPLICATION OF TOPOGRAPHY		40	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		16	
COMPARISON WITH PRIOR SURVEYS & CHARTS		70	
VERIFIER'S REPORT		24	
OTHER		599	
TOTALS	30	1398	1428

Pre-Verification by S. Kelly, R. Keene, D. Mason	*Beginning Date* 12-21-76	*Ending Date* 5-15-80
Verification by R. Hill	*Beginning Date* 8-15-80	*Ending Date* 7-1-81
Verification Check by R. D. Sanocki	*Time (Hours)* 6 hrs.	*Date* 6-26-81
Marine Center Inspection by Hydrographic Inspection Team	*Time (Hours)* 12 hrs.	*Date* 6-29-81
Quality Control Inspection by F.P.Saulsbury	*Time (Hours)* 342	*Date* 5-6-83
Requirements Evaluation by	*Time (Hours)*	*Date*

G.K. Myers 45 hrs 8/26/83

REGISTRY NO. H-9644

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

Triangulation Station #124 (Bunkered Rock Beacon, 1976) used for control is also the site of a fixed navigational aid (Bunkered Rock Daybeacon). Cartographic code 139 and 219 should therefore be inserted in the C and Z formats of the digital records.

Cartographic code 139 represents the identity of the control station and should be shown in the C format, while cartographic code 219 represents a black day beacon which should be identified in the Z format.

ATLANTIC MARINE CENTER
VERIFICATION REPORT
1

REGISTRY NO. H-9644 FIELD NO.: WH-10-6-76

Massachusetts, Buzzards Bay, Clarks Point to Barneys Joy Point

SURVEYED: May 15 through September 20, 1976

SCALE: 1:10,000 PROJECT NO.: OPR-503

SOUNDINGS: Raytheon DE-723D
Raytheon DE-719B
Sounding Pole
Leadline
Divers

CONTROL: Del Norte (Range/Range)
Del Norte and Theodolite (Range/Azimuth)
"See Boat Sheet"

Chief of Party ..... J. W. Carpenter

Surveyed by ..... D. Wilson
..... D. Yeager
..... J. Gofus
..... N. Konchuba
..... G. Barone
..... D. Goodrich
..... J. Rubino

Automated Plot by ..... Xynetics 1201 Plotter (AMC)

Verified and Inked by ..... R. R. Hill
Date ..... June 29, 1981

1. INTRODUCTION

a. During verification of this survey, no unusual problems were encountered. ✓

b. In the vicinity of latitude 41°35'10", longitude 70°56'40", leadline depths taken along piers have been displaced on the smooth sheet to avoid breaking pier ✓ delineation. Also, this area is being shown on subplans at a scale of 1:2,500.

c. The red changes in the Descriptive Report were made by the verifier and the q.c. Evaluator.

2. CONTROL AND SHORELINE

a. The source of control was adequately described in sections F. and G. of the Descriptive Report. ✓

b. Shoreline was transferred from Class I unreviewed Photogrammetric Manuscripts TP-00767 of 1974-76, TP-00768 of 1974-76/77/79 and TP-00771 of 1974-76/77/79. ✓

3. HYDROGRAPHY

a. Depths at crossings are in good agreement.
10' bust in crossing in lat. 41°29.83'N, long. 70°59.08'W was reconciled during q.c.

b. The standard depth contours, generally could be adequately delineated; however, there are areas where a dashed curve was utilized due to the sparse hydrographic detail of the present survey. Also the delineation of depth contours was supplemented in numerous areas by prior survey depths. Frequently the delineation of depth curves would have been impossible without bottom coverage provided by the prior surveys.

c. The development of the bottom configuration and the investigation of least depth are considered adequate, with the exception of areas noted in this report. Do not concur. Generally the development of the bottom configuration & the investigation of least depths are inadequate. Only with the addition of numerous least depths, shoal depths & depths to provide bottom coverage from prior surveys is this survey considered adequate.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records, and reports are adequate and conform to the requirements of the Hydrographic Manual, with the following exceptions.

a. The taking of more bottom samples within the survey area would have been desirable. concur Several were brought fwd to the present survey from prior surveys.

b. The hydrographer failed to locate or discuss the disposition of buoy R"8", Lone Rk buoy "4LR" and four private maintained buoys, charted in the vicinity of latitude 41°34'45", longitude 70°56'45". See also pg. 7 of V.R. "Aids to Navigation"

c. The information logged in the sounding volumes was not in complete accord with Section 4.8.3.1 of the Hydrographic Manual. Sounding volumes were not numbered and positional numbers were not logged in the volumes on many days of hydrography. Also volumes containing positional information for Range/Azimuth work were not referenced to corresponding volumes containing sounding data. Position numbers were occasionally omitted on the fathograms.

d. The hydrographer failed to adequately determine the extent of navigable depths and channel limits in ~~the~~ Slocum River. concur - no axis lines

e. The hydrographer failed to locate or determine the disposition of buoy N "4LR", charted in the vicinity of latitude 41°33. 65', longitude 70°54.93". concur

5. JUNCTIONS

H-9628 (1976) on the east
H-9645 (1976) on the south } not verified as of 2/27/85

An adequate junction was effected with the above contemporary surveys.

Due to the unavailability of H-9615 (1976) for adjustments, an adequate junction on the southeast was not completed. It is requested that this junction be completed by Quality Control. Accomplished during Q.C.I.

6. COMPARISONS WITH PRIOR SURVEYS

a. H-5880 (1935) 1:10,000

H-5882 (1935) 1:10,000

H-5630 (1934) 1:10,000

H-2229 (1895) 1:20,000

The above prior surveys, taken together, provide the most recent prior survey coverage of the present survey area. A comparison between these prior surveys and the present reveals differences ranging from ~~4~~ 8 feet deeper to 2 feet shoaler than the present survey. However, generally depth differences range from +/-one foot, especially in areas greater than 12 feet. The most significant depth differences occurred in the vicinities of Slocum River and Apponagansett River, where shoaling is apparent. Also some degree of shoreline erosion and deposition is evident throughout the survey area. Differences encountered may be attributed to natural and cultural changes in the area. Attention is directed to the following:

1. Due to sparse hydrography in numerous inshore and shoal areas, many depths and rocks awash from the above listed prior surveys have been brought forward to supplement the present survey. concur

2. An isolated 6-foot depth from H-5880 (1935) in latitude 41° ~~35'08"~~ 35.12' not charted, Longitude 70° ~~56'48"~~ 56.80' falls on a present survey depth of 10 feet. Apparently, this prior depth (6-feet) has been superceded by data prior to the present survey in this area because the chart shows a depth of four feet at this location. It is recommended that the disposition of this depth be considered further by the Nautical Chart Compiler. Do not concur. The 6' sdg. & the 4' sdg. are considered disproved by present survey depths of 10 feet to 19 feet in this locality.

The present survey is adequate to supersede the prior surveys within the common area.

b. H-2968 (1908-09) W. D. 1:20,000

H-3556 (1913-14-15) W. D. 1:20,000

F. E. No. 3 (1967) W.D. (FE-207(1967)W.D.)

No conflicts exist between the present depths and the effective drag depths. Several sounding from H-2968 (1908-09), which are Presurvey Review Items, were carried forward to the present survey. concur

The hang depth of 13 ft (wreck) in latitude 41°30'36", longitude 70°54'28", cleared to 11 feet was brought forward to the present survey from F.E. No. 3 (1967) W. D. (207) concur ✓

7. COMPARISON WITH CHARTS #13230 (27th Edition October 25, 1975)
#237 (5th edition January 27, 1973)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys, with the exception of a few depths charted in the vicinity of latitude 41°35'06", longitude 70°56'48". The source for these charted depths was not determined; however, the present survey is considered adequate to supercede these charted depths within the common area. concur

The disposition of Presurvey Review Items and charted features located within the limits of this survey were adequately discussed under sections K and L. of the Descriptive Report with the following exceptions:

1. A 6-foot depth, dashed circle Presurvey Review Item, charted at latitude 41°35.05', longitude 70°56.83';, originates from an ~~unknown~~ (misc) source. The disposition of this shoal, sdg. was not determined by the present survey. It is recommended that retention of this depth be considered further by Quality Control. The 6' sdg falls between lines on the pres. survey & should be retained as charted.

2. Two Piles charted in the vicinity of latitude 41°36.5', longitude 70°55.83', originates with H-5880 (1935). Their disposition was not determined by the present survey and the Photogrammetric Manuscript (TP-000767) covering this area shows the existance of only one. It is recommended that the two piles be revised to a single pile using the photogrammetric source unless subsequent data dictate otherwise. concur (described as an abandoned intake filter on the present survey)

3. The cable area charted in the vicinity of latitude 41°35'12", longitude 70°57'10", originates from an unknown source. The disposition of this cable area was not determined by the present survey and it is recommended that it be retained for charting, unless subsequent data dictate otherwise. concur

4. The submerged obstruction reported, Presurvey Review Item No. 46, charted in latitude 41°34.09, longitude 70°54.92', originates from an undetermined source. The disposition of this item was not determined by the present survey and it is recommended that it remain as charted. concur

5. The piles charted in the vicinities of latitude 41°36.77', longitude 70°55.7' and latitude 41°36.7, longitude 70°55.35', originates with prior survey H-5880 (1935). Current Photogrammetric Manuscript TP-00767 describes these piles as intake filters, however, the prior survey depicts them as sewer outlets (stone cribs), The present survey failed to resolve this difference and it is recommended that these features be considered further by Quality Control. Accepted the description furnished on TP-00767.

The present survey is adequate to supersede the charted hydrography within the common area, with exceptions noted in the V.R.# and Q.C. Report and with the addition of numerous sdgs brought fwd to the smooth sheet during processing of the survey.

b. Aid to Navigation

The aids to navigation located on the present survey adequately mark features intended; however, the disposition of charted buoys R "8" at latitude 41°34'49", (South Dartmouth Chan Buoy) (Apponagansett Bay) longitude 70°56'42", and R "4LR" at latitude 41°33'39", longitude 70°54'55", was (Lone Rk) not discussed. Also the dispostion of four private maintained buoys in the vicinity * white spar of latitude 41°34'45", longitude 70°56'45", was not discussed. (Apponagansett Bay)

* (1976 Lt. List - Anchorage Buoys A, B, C & D, priv. maint'd May 1 to Dec. 1)
Compiler - check with U.S.C.G. for above aids.

8. COMPLIANCE WITH INSTRUCTION

This survey adequately complies with Project Instruction except as noted elsewhere in this report. Project instructions are not available 5/6/83

9. ADDITIONAL FIELD WORK

With numerous additions from prior surveys, this is an adequate basic survey and no additional field work is recommended. considered

Seven rocks awash delineated on TP-00771 (1974-79) and transferred to the smooth sheet, plus a subm rock brought fwd to the smooth sheet from H-5630 (1934), are considered questionable and should be investigated at an opportune time to ascertain their validity.

G.P.'s of seven rocks awash delineated on TP-00771 (1974-79)

Lat. (N)	Long (W)	
41°31.27"	70°57.85'	
41°31.32'	70°57.86'	These two rks awash were originally shown on the unreviewed class I topographic map. TP-00771 (1974-79). The final review of TP-00771 disproved their existence and they have been removed from TP-00771 and the smooth sheet 3/5/85 JPS
41°31.38'	70°57.87'	
41°31.46'	70°58.30'	
41°31.47'	70°57.64'	
41°30.98'	70°58.07' (two rocks)	

AWOIS msm 10/85

H-5630 subm rk located in/at 41°31.37'N, long. 70°57.72'W

H.I.T.

INSPECTION REPORT
H-9644

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth contours, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey complies with National Ocean Survey requirements except as noted in the Verification Report and the following:

1. ~~Five~~ Seven rocks awash delineated on the shoreline map, TP-00771, See V.R. pg. 7, item 9. well offshore (from approximately 500 to 900 meters) and falling in survey depths of 10 to 22 feet were not verified by the hydrographer. These rocks fell between sounding lines of 100 meters and no indication of their presence was noted on those lines. concur The seven rocks awash were transferred to the smooth sheet from TP-00771.

2. Several charted features were not verified by the present survey. For example, an isolated offshore rock covered by two feet of water was not located by a limited development by the hydrographer. The least depth from the development was 19 feet. This survey can only be considered basic after data from the prior surveys were brought forward to supplement it. concur Approx. 2300 items were brought fwd during verification & quality control inspec.

3. It was observed from the electronic calibration data for the Del Norte positioning system that any given position fix run on-line could have inherently been shifted due to varying signal strength. The amount of shift would in some instances exceed the root mean square error allowable for the equipment in use at the survey scale. No method exists to indicate whether or not a particular fix was so affected. concur

The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions, and recommendations. See also O.C. Report

Examined and Approved
Hydrographic Inspection Team

R. D. Sanocki
Acting Chief, Processing Division

Ronald W. Jones, LCDR, NOAA
Field Procedures Officer
Operations Division

James C. Gardner, Jr., LTJG, NOAA
Chief, EDP Branch
Processing Division

Approved/Forwarded
July 6, 1981

Richard H. Houlder, RADM, NOAA
Director, Atlantic Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

N/CG242:FPS

March 12, 1985

TO: Roy K. Matsushige RKM
Chief, Hydrographic Surveys Branch

THRU: Chief, Standards Section JM

FROM: F. P. Saulsbury F. P. Saulsbury
Quality Evaluator

SUBJECT: Quality Control Report for Survey H-9644 (1976), Massachusetts, Buzzards Bay, Clarks Point to Barneys Joy Point

A quality control inspection of survey H-9644 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a ½-scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to National Ocean Service standards and requirements except as stated in the Verifier's Report and the HIT Report. The following supplements the Verifier's Report.

1. Cultural change disproves the present existence of the marine railway charted from a miscellaneous source in latitude 41°35.69'N, longitude 70°57.39'W.

Expunge the charted marine railway.

2. The pier or groin charted from a miscellaneous source in latitude 41°36.18'N, longitude 70°55.80'W is not shown on the present survey. If any ruins remain, they are considered to have no charting significance.

Expunge the charted item.

3. The pier charted from a miscellaneous source in latitude 41°36.06'N, longitude 70°54.80'W falls within a foul area on the present survey. If any ruins remain, they are considered to have no charting significance.

Expunge the charted pier.

4. The ruins charted from a miscellaneous source in latitude 41°36.25'N, longitude 70°54.95'W are not shown on the present survey and are considered to have no charting significance.

Expunge the charted ruins.

5. The two islets charted from T-6374 (1935) in the vicinity of latitude 41°35.76'N, longitude 70°57.49'W are not shown on the present survey. These two islets have probably eroded away.

Expunge the two charted islets.

6. The pier or groin charted from a miscellaneous source in latitude 41°35.56'N, longitude 70°54.35'W does not appear on the present survey. If any ruins remain, they would fall within a foul area and are considered to have no charting significance.

Expunge the charted item.

7. The "5 FT REP 1970" charted note pertaining to depths in the vicinity of latitude 41°35.15'N, longitude 70°56.75'W is considered discredited by deeper depths acquired in this area on the present survey.

Expunge the charted note and leader. Chart depths as shown on the present survey.

8. The L-shaped pier charted from a miscellaneous source in latitude 41°34.80'N, longitude 70°57.00'W is not shown on the present survey. If any ruins remain, they are considered to have no charting significance in this rocky area.

Expunge the charted pier.

9. The marsh islet charted from T-5604 (1934-36) in latitude 41°33.38'N, longitude 71°00.20'W is not shown on the present survey. The islet is considered to have eroded away.

Expunge the charted islet.

10. The marsh islet charted from a miscellaneous source in latitude 41°32.92'N, longitude 71°00.16'W is not shown on the present survey. The islet is considered to have eroded away.

Expunge the charted islet.

11. The pier charted from a miscellaneous source in latitude 41°32.89'N, longitude 70°59.92'W is not shown on the present survey.

A resolution concerning the charting of this pier as ruins is deferred to the compiler.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

N/CG242:FPS

March 12, 1985

TO: Roy K. Matsushige
Chief, Hydrographic Surveys Branch

THRU: Chief, Standards Section

FROM: F. P. Saulsbury
Quality Evaluator

SUBJECT: Quality Control Report for Survey H-9644 (1976), Massachusetts, Buzzards Bay, Clarks Point to Barneys Joy Point

A quality control inspection of survey H-9644 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a ½-scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to National Ocean Service standards and requirements except as stated in the Verifier's Report and the HIT Report. The following supplements the Verifier's Report.

1. Cultural change disproves the present existence of the marine railway charted from a miscellaneous source in latitude 41°35.69'N, longitude 70°57.39'W.

Expunge the charted marine railway.

2. The pier or groin charted from a miscellaneous source in latitude 41°36.18'N, longitude 70°55.80'W is not shown on the present survey. If any ruins remain, they are considered to have no charting significance.

Expunge the charted item.

3. The pier charted from a miscellaneous source in latitude 41°36.06'N, longitude 70°54.80'W falls within a foul area on the present survey. If any ruins remain, they are considered to have no charting significance.

Expunge the charted pier.

12. The four piers charted from T-5604 (1934-36) in the vicinity of latitude 41°35.59'N, longitude 70°57.20'W are in conflict with counterpart features shown on the present survey. Cultural change in the area suggests that the old piers have been rebuilt.

Chart the area as shown on the present survey.

13. The four islets charted in the vicinity of latitude 41°35.95'N, longitude 70°57.70'W from a breakwater symbolization on T-5604 (1934-36) do not appear on the present survey. Depths of 0 to ½ foot now cover this area and discredit the present existence of the breakwater.

Expunge the four charted islets.

14. The two piers charted from T-5604 (1934-36) in the vicinity of latitude 41°35.69'N, longitude 70°57.38'W no longer exist. Present shoreline delineation places the former piers on land.

Chart the area as shown on the present survey.

15. Chart the configuration of the pier charted from a miscellaneous source in latitude 41°32.72'N, longitude 70°59.46'W as shown on the present survey.

16. The isolated feature charted from a miscellaneous source in latitude 41°32.63'N, longitude 70°59.16'W is not shown on the present survey. This item may be a floating pier.

A charting resolution is deferred to the compiler.

17. The ruins, considered to have originated with T-5604 (1934-36) and charted in latitude 41°32.44'N, longitude 70°59.05'W, are in conflict with the configuration of ruins brought forward to the present survey from this prior topographic survey.

Chart the ruins as shown on the smooth sheet.

18. The pier charted from a miscellaneous source in latitude 41°32.30'N, longitude 70°58.89'W is not shown on the present survey.

A resolution on the charting of this pier as ruins is deferred to the compiler.

19. The islet charted from T-5604 (1934-36) in latitude 41°32.32'N, longitude 70°59.13'W is now connected to the mainland according to the present survey.

Chart the area as shown on the present survey.

20. Three islets charted from T-5604 (1934-36) in the vicinity of latitude 41°32.13'N, longitude 70°59.22'W are not shown on the present survey and are considered to have eroded away.

Expunge the three charted islets.

21. The islet charted from a miscellaneous source in latitude 41°32.28'N, longitude 70°59.01'W is considered disproved by present survey information.

Expunge the charted islet.

22. The charted breakwater ruins in latitude 41°32.29'N, longitude 70°58.64'W are considered to originate with T-5604 (1934-36). Their charted delineation is incomplete.

Chart the breakwater ruins from shore to shore as shown on the present survey.

23. The groin charted from a miscellaneous source in latitude 41°31.41'N, longitude 70°57.50'W is not shown on the present survey. Unless the compiler has information to the contrary, the groin should be charted in ruins.

24. The pier charted from a miscellaneous source in latitude 41°31.40'N, longitude 70°57.50'W is not shown on the present survey. Unless the compiler has information to the contrary, the pier should be charted in ruins.

25. The 4½-foot sounding labeled "Rk" charted from a miscellaneous source in latitude 41°33.84'N, longitude 70°56.19'W was neither verified nor disproved on the present survey.

Consideration should be given to charting a least depth of 4 feet on this rock rather than a 4½=foot least depth.

The submerged rock should be retained. However, a resolution as to what depth to chart on the rock is deferred to the compiler.

26. A submerged rock covered 7 feet at MLW was brought forward to the smooth sheet in latitude 41°34.57'N, longitude 70°56.45'W from H-5880 (1935). The 7 foot-sounding on a submerged rock is considered to have been removed from the chart so as to allow space for type. If the compiler can find no information to the contrary, the 7-foot sounding on a submerged rock should be charted as shown on the present survey.

27. Two 18-foot soundings charted (Chart 13230, 27th Ed., 10/25/75) from miscellaneous sources in latitude 41°29.75'N, longitude 70°58.01'W and latitude 41°29.99'N, longitude 70°58.11'W were neither verified nor disproved on the present survey.

These two 18-foot soundings are not shown on the large-scale chart (Chart 237, 5th Ed., 1/27/73) covering this area.

If the compiler has no information to the contrary, the 18-foot soundings should be added to chart 237 and retained as charted on chart 13230.

28. The 4-foot sounding charted from a miscellaneous source in latitude 41°35.12'N, longitude 70°56.80'W is considered discredited by 10- to 19-foot depths on the present survey.

Expunge the charted 4-foot sounding and chart depths as shown on the present survey.

29. The identification of marsh is inadequately depicted along shoreline on the present survey. The contemporary shoreline maps should be referred to when charting these areas.

30. Charted green-tint low water areas, isolated from shore and enclosed by dotted low water curves, and not shown on the present survey are considered disproved by present depths. These areas should be expunged from the chart.

31. The charted delineation of bare rocks and rocks awash within the Dumpling Rocks group in the vicinity of latitude 41°32.25'N, longitude 70°55.40'W is in conflict with the delineation of rocks within this area on the present survey.

Chart this area as shown on the present survey.

32. Descriptive elevations accompanying charted rocks awash, such as "Bare 3 ft. MLW," are charted contrary to Nautical Chart Manual requirements. "Bare" is reserved for items whose elevations are greater than 1 foot above MHW. "Uncovers" applies to rocks exposed at any stage of tide between MLW and 1 foot above MHW. (See Nautical Chart Manual, pages 67 and 69.)

Replace bare annotations by uncovers where appropriate on the chart.

33. The following charted soundings are generally accompanied by a "rky" bottom characteristic. Their original sources identify these soundings as depths on submerged rocks. These soundings should be charted with a "Rk" label appended as shown on the smooth sheet.

Sounding (feet)	Latitude (N)	Longitude (W)	Source
4	41°30.57'	70°58.65'	H-5630 (1934)
5	41°30.62'	70°58.53'	"
4	41°30.70'	70°58.63'	"
8	41°30.91'	70°57.60'	"
2	41°30.90'	70°57.78'	"
4	41°30.97'	70°57.76'	H-154 (1844)
2	41°31.03'	70°57.61'	H-5630 (1934)
2	41°31.15'	70°57.68'	H-5630 (1934)
7	41°31.17'	70°57.09'	H-5882 (1935)
24	41°31.17'	70°56.09'	"
4	41°31.53'	70°56.79'	"
2	41°31.59'	70°56.83'	"
16	41°31.55'	70°56.35'	"
16	41°31.60'	70°55.31'	"
3	41°32.13'	70°56.72'	"
5	41°32.04'	70°56.74'	"
2	41°32.18'	70°55.68'	"
2	41°32.21'	70°55.55'	"
3	41°32.16'	70°55.32'	"
2	41°32.52'	70°55.69'	"

Sounding (feet)	Latitude (N)	Longitude (W)	Source
23	41°32.54'	70°54.98'	H-2968 (1908-09) WD
9	41°33.23'	70°55.94'	H-2229 (1895)
5	41°33.41'	70°54.60'	H-2229 (1895) and H-5882 (1935)
8	41°34.65'	70°56.54'	H-5880 (1935) Dartmouth Rk
2	41°35.19'	70°55.80'	H-5880 (1935)

34. a. The following charted landmarks were neither observed from seaward nor are they mentioned by the surveyor. These landmarks should be retained and charted from their positions shown on the form 76-40's accompanying contemporary shoreline maps covering this area.

Landmark	Latitude (N)	Longitude (W)
Stack	41°36.73'	70°55.18'
Stack	41°36.76'	70°55.26'
Stack	41°36.88'	70°55.72'
Stack	41°36.02'	70°55.94'
Spire	41°35.31'	70°56.46'
Tank	41°33.32'	70°57.24'
Radome	41°32.41'	70°55.84'

b. The Windmill landmark charted from T-5604 (1934-36) in latitude 41°32.71'N, longitude 70°57.18'W was not mentioned on the present survey and is not shown on TP-00771 (1974-79). This item is considered to be of no landmark value and may no longer exist.

Expunge the charted Windmill landmark.

c. The Radio Tower landmark charted from T-5604 (1934-36) in latitude 41°32.43'N, longitude 70°56.46'W was not mentioned on the present survey and is not shown on TP-00771 (1974-79). This item is considered to be of no value as a landmark and may no longer exist.

Expunge the charted Radio Tower landmark.

35. a. Apponagansett and Smith Neck are misspelled on chart 237, while Clarks Cove is misspelled on chart 13230. These names should be corrected at the next printing of the charts.

b. Type placement on the chart of the geographic names Smith Neck, Mishaum Point (chart 237), Dartmouth Rock, Keel Rock, White Rock, and Slocums Ledge should be revised to accurately identify these features as shown on the present survey.

c. Salters Point Ledge should be charted to describe the named feature as shown on the smooth sheet.

d. Apponagansett River is no longer an approved geographic name. The entire body of water extending from Ricketsons Point inland to Apponagansett is now Apponagansett Bay.

e. Salters Point Rock and The Sandspit Southwest Shoal are names recommended during quality control inspection to identify the marked rock features at latitude 41°31.52'N, longitude 70°56.28'W and latitude 41°31.61'N, longitude 70°55.32'W, respectively. These names are pending approval by the staff geographer.

36. The following soundings shown on the present survey are isolated shoal depths from pinnacle traces on the echograms or are noted otherwise. These were neither investigated to ascertain that least depths were acquired nor were they identified in the sounding records as depths on submerged rocks.

Sounding (feet)	Latitude (N)	Longitude (W)
6	41°36.61'	70°55.73'
13	41°34.45'	70°56.25' (rock outcrop)
13	41°33.52'	70°56.04'
12	41°32.66'	70°55.71'
13	41°32.16'	70°56.34'
12	41°32.22'	70°56.04'
7	41°32.32'	70°56.04'
7	41°32.24'	70°55.90'
11	41°32.16'	70°55.80'
18	41°32.13'	70°55.95'
16	41°32.15'	70°55.89'
21	41°31.93'	70°56.31'
18	41°31.87'	70°56.52'
18	41°31.75'	70°56.61'
18	41°31.73'	70°56.51'
11	41°31.28'	70°58.49'
12	41°31.21'	70°57.03'
7	41°31.36'	70°56.81'
27	41°31.30'	70°55.99'
12	41°30.70'	70°57.41'
13	41°30.73'	70°57.35'
29	41°30.68'	70°55.41' (side echo)
22	41°30.34'	70°58.26' (side echo)
16	41°30.11'	70°57.15' (side echo)
23	41°29.64'	70°56.99' (side echo)

These soundings, as well as several shoal soundings charted from prior surveys, uninvestigated on the present survey and brought forward to the smooth sheet, should be fully investigated on a future survey so as to provide least depths and to furnish adequate delineation of the bottom. Also, bottom characteristics on these features should be acquired.

37. The unsupported 6-foot sounding in latitude 41°36.14'N, longitude 70°55.64'W and the unsupported 15-foot sounding in latitude 41°33.49'N, longitude 70°56.03'W on the present survey could not be checked on the

fathograms because position numbers were not readily ascertainable as a reference on the position overlay. Future surveys of the area should obtain least depths over these features.

38. The Presurvey Review for this project contained several excellent recommendations with regard to survey procedures which should have been performed during field operations. The survey recommendations not fully implemented include:

a. An investigation of numerous charted rocks and unsupported shoal soundings in order to ascertain their validity.

b. An investigation and subsequent acquisition of least depths on newly found shoals so as to provide adequate development of bottom configuration.

c. The use of an improvised drag or sweep to aid in making an effective investigation of charted piles, piers, ruins, etc., observed to be not visible at the water surface.

d. Side echoes, recorded on the echograms, were occasionally overlooked and not further investigated to ascertain least depths. (Specific side echoes are listed in the Quality Control Report, item 36.)

e. The investigation of charted piers, groins, ruins, etc., not shown on contemporary shoreline maps so as to furnish sufficient information for a charting resolution.

39. In addition to the specific recommendations addressed in the Presurvey Review, the following four deficiencies are noted:

a. The delineation of depth curves was generally compromised due to inadequate development of the bottom.

b. Charted landmarks were generally overlooked.

c. The location of charted floating aids to navigation was incomplete.

d. Slocums River shoreline beyond the limit of photo coverage should have been located and delineated.

With the bringing forward of numerous soundings and other features from prior surveys and office recommendations to retain items charted from miscellaneous sources, this survey may be considered basic.

40. Any future survey of this area should employ whatever means necessary to ensure that comprehensive and definitive results are obtained. The use of a dual-beam echo sounder, wire drag, and/or side scan sonar should be considered, along with the acquisition of low water photography. The use of a diver when visibility in the water is limited to 2 feet or less, as was done on the present survey, is considered useless.

41. To facilitate decisions that may be made in writing future project instructions covering the present survey area, the following information was found in Descriptive Reports of prior surveys and is noted:

Over severe winters boulders are transported to new locations by ice flows. Boulders alongshore, out to 100 meters from shore, are constantly being removed to improve beaches for recreational purposes. The deterioration of rocks is mentioned. Many submerged rocks have small sharp pinnacles that are almost impossible to detect without the use of wire drag.

42. Rocks shown on the smooth sheet in one color and accompanied with elevations in another color convey the survey source of the data to the survey user. Pinnacle traces on the present survey echograms, reducing to minus soundings, and not identified by the hydrographer as depths on rocks, in some cases occupy the exact location of rocks awash on prior surveys. When this occurred, the prior survey rock awash was symbolized on the smooth sheet in the representative color, and the minus sounding from the present survey was converted to an elevation above MLW and shown in black on the smooth sheet.

cc:
N/CG241

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

N/CG241:MSM

NOV 5 1985

TO: N/MOA - Wesley V. Hull

FROM: N/CG2 - J. Austin Yeager

SUBJECT: Report of Compliance for Survey H-9644

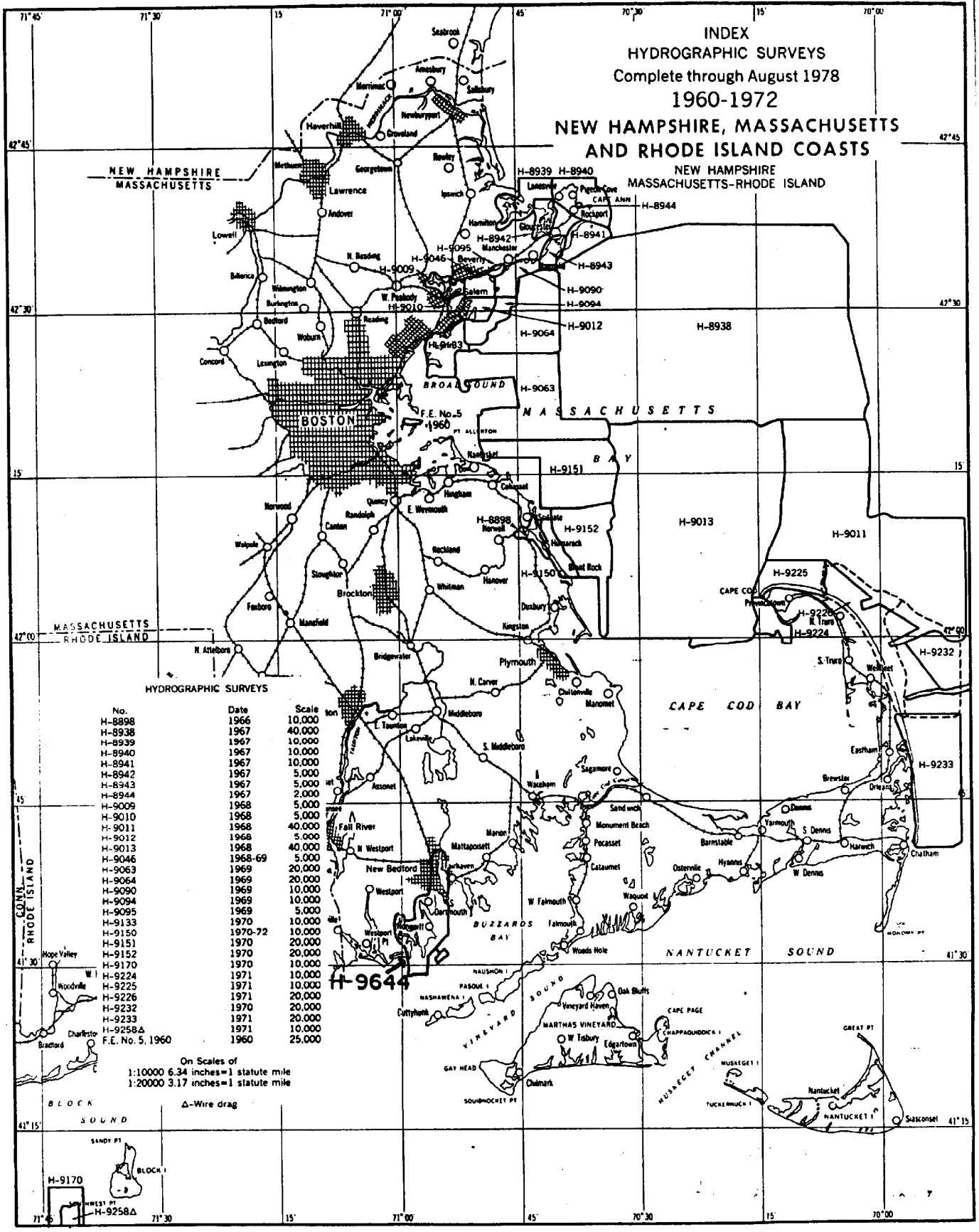
The smooth sheet and Descriptive Report for survey H-9644 (1976), Massachusetts, Buzzards Bay, Clarks Point to Barneys Joy Point, have been reviewed. Please extend my appreciation to WHITING and your processing unit at the Atlantic Marine Center for their efforts in completing this survey. This survey, except as noted in the Quality Control Report, dated March 12, 1985 (copy attached), and the Hydrographic Survey Inspection Team Report, dated July 6, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-503-WH-76, dated January 16, 1976.

Attachment

cc:
N/CG242 w/o att.

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 62 R



No.	Date	Scale
H-8898	1966	10,000
H-8938	1967	40,000
H-8939	1967	10,000
H-8940	1967	10,000
H-8941	1967	10,000
H-8942	1967	5,000
H-8943	1967	5,000
H-8944	1967	2,000
H-9009	1968	5,000
H-9010	1968	5,000
H-9011	1968	40,000
H-9012	1968	5,000
H-9013	1968	40,000
H-9046	1968-69	5,000
H-9063	1969	20,000
H-9064	1969	20,000
H-9090	1969	10,000
H-9094	1969	10,000
H-9095	1969	5,000
H-9133	1970	10,000
H-9150	1970-72	10,000
H-9151	1970	20,000
H-9152	1970	20,000
H-9170	1970	10,000
H-9224	1971	10,000
H-9225	1971	10,000
H-9226	1971	20,000
H-9232	1970	20,000
H-9233	1971	20,000
H-9258Δ	1971	10,000
F.E. No. 5, 1960	1960	25,000

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9644

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
13228	2-19-86	H. Fodden	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 18
13229	2-21-86	H. Fodden	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 92 Considered fully app'd
			Full ~~Part Before~~ After Verification Review Inspection Signed Via
13230	4-28-86	G. STANNARD	Drawing No. 46
13218	10-23-86	H. Fodden	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 66
13232	9/15/89	J. A. Graham	(Full) Part Before After Verification Review Inspection Signed Via
			Drawing No. *1$ *1P fully app'd hydro to new
			large scale chart 13232
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS 8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975